

Section 4: Genetics

In section 4 ☺ of your second semester map, you will draw or write everything that you know about Mendelian Genetics. You should at least answer all of the following questions:

1. What is a Punnett Square? What is its purpose? When do you use it?
2. How do the following terms relate to one another: Gene v. Allele, Phenotype v. Genotype, Homologous v. Heterozygous, Haploid v. Diploid
3. What is a Genotypic Ratio? What is a Phenotypic ratio?
4. How does Mendel's laws of dominance, independent assortment, and segregation effect genetics? Where do you get your genetic information from? What is a Karyotype and what can you determine by looking at one? Draw a chromosome and label where you would find a gene and centromere. How does crossing over effect genetic diversity?
5. What is meant by the terms homozygous dominant, homozygous recessive, and heterozygous?
6. How do questions one and two relate to Co-dominance, Incomplete dominance and Complete Dominance?
7. What is blood typing? Cross a male who has IAIB with a female who is IAi. What are the possible genotypes and phenotype + ratios?
8. What is meant by the term "carrier"? What happens to the recessive allele if someone is a carrier?
9. What is a pedigree and how do you read one? What is its purpose? What kind of information do you collect in pedigrees?
10. What is a dihybrid cross? How many traits does it measure? How does it differ from a monohybrid cross?
11. In the section between Meiosis and Genetics describe how each relate to one another.

